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of each month, except July and August. It is also having excursions during the summer, after the manner of the Queckett Club.

THE PROPAGATION OF CLUSTER-CUPS.—Dr. M. C. Cooke, in his "Introduction to the Study of Microscopic Fungi," calls attention to the difficulty of accounting for the appearance of the cluster-cups (*Aecidiacei*) bursting through the cuticle of the leaves of the plants on which they are found. The question is as to the manner in which their spores reach the interior of the leaf where they germinate. It certainly cannot be by way of the stomata, for these are too small, nor would this account for the preservation of the spores until the succeeding year. Equally difficult is it to imagine a process by which they can gain access to the interior of the growing leaf through the roots, nor have they been traced passing through the tissues of the plant. The author named mentions the fact, however, that Rev. M. J. Berkeley was able to propagate Cluster-cups by growing plants from seeds which had been placed in contact with their spores. Following this hint and noting the fact that the species growing in this vicinity ripened and discharge their spores at the time when the plants on which they are found are in blossom, it was easy to reach the conviction that these spores would be found along with the pollen in the interior of the ovary, thus coming into contact with the seeds and depositing the germs of future growth. Acting upon this hypothesis, I have examined the flowers of *Podophyllum peltatum* and *Arisæma triphyllum* growing within a few feet of plants of the same species whose leaves were covered with Cluster-cups, and in many instances have found the orange-colored spores among the pollen in the ovary. Likewise I have found pollen from *Podophyllum peltatum* mingled with the spores dusted over the leaves of a plant of the same species at a distance of several feet from any blossom, indicating apparently that it had been transported by insects.—*M. A. Veeder.*

NATIONAL COMMITTEE ON MICROMETRY.— Prof. Wm. Ashburner, of San Francisco, Cal., and Rev. Samuel Lockwood, of Freehold, N. J., have been added to this committee.

ERRATUM.—In the last line of "Microscopy," in the last number of the NATURALIST, for "Kill's cement" *read* Bell's cement.

——:o:——

SCIENTIFIC NEWS.

— Dr. Elliott Coues contributes to the June number of the *Penn Monthly* some interesting correspondence of the ornithologists, Wilson, Ord and Bonaparte.

— A *Sphargis coriacea*, weighing 765 pounds, was recently taken in the Delaware river, near Fort Delaware. It was purchased by Prof. Cope for the Permanent Exposition at Philadelphia.

— The American Association for the Advancement of Science will hold its thirty-eighth meeting at Saratoga, N. Y., opening on Wednesday, August 27th next. The permanent subsection of chemistry will be continued at Saratoga under the chairmanship of Prof. Ira Remsen, of Baltimore. The permanent subsection of microscopy will be presided over by Prof. E. W. Morley, of Hudson, Ohio, and the coöperation of microscopists is requested. The permanent subsection of anthropology has united with section B at the late meetings, a day having been specially allotted to anthropological papers. A chairman was not elected for the Saratoga meeting, but it is understood that this subsection can reorganize at Saratoga should the anthropologists present consider it desirable. In this connection it is proper to note that there will probably be a meeting of the American Anthropological Association during the association week. The attention of entomologists is directed to the annual meeting of the Entomological Club of the association, which will be held at Saratoga on Tuesday, August 26th, at which all interested are invited to be present. Mr. J. A. Lintner, of Albany, is president, and Mr. B. P. Mann, of Cambridge, secretary of the club. At the St. Louis meeting the permanent secretary was directed to call special attention to the desirability of forming a new subsection in the association, which should be devoted to physiology and anatomy, with the special object of inducing members interested in human physiology to bring their papers before the association and also of obtaining the active coöperation of physicians and surgeons in the work of the association. The president of the association is George F. Barker, of Philadelphia, and the permanent secretary, F. W. Putnam, whose address is Salem, Mass.

— The following was recently received at the Philadelphia Zoölogical Garden by the superintendent. On inquiry it proved to be *bona fide:*

"Too the Manager of the zeoological Garden.

Phil June 2 79.

Sir I have Somethinge wich is without any misstack a Grate novilty too the public & is no Cost it is a alactrick Fish wich lives in Fire as well as in water it proueduce fire & Smoke.

PROFF LYONS."

— Charles Hallock, Esq., who is the author of several books on field sports, and the editor and founder of *Forest and Stream*, the well-known sportsman's journal, has just issued a fifth edition of his "Sportsman's Gazetteer and General Guide," a most complete encyclopedia of 921 pages. This book has become a standard authority on all subjects of which it treats; besides, it is endorsed by leading scientists. It has already been republished in England, France and Germany.

— Prof. Viand, Grand Marais in Nantes, France, is desirous of obtaining American lichens in exchange for European.

— Noteworthy arrivals at the Zoölogical Garden, of Philadelphia: 27 undulated grass parrakeets (*Melopsittacus undulatus*); 1 red and yellow macaw (*Ara chloroptera*); 1 red-headed duck (*Fuligula ferina americana*); 1 macaque monkey (*Macacus nemestrinus*), born in the garden; 1 white-fronted parrot (*Chrysotis leucocephalus*); 1 blue-fronted parrot (*Chrysotis cyanorhyncha*); 1 pouched rat (*Geomys bursarius*); 1 whistling swan (*Cygnus americanus*); 2 ostriches, 1 ♂, 1 ♀ (*Struthio camelus*); 1 oryx antelope, ♀ (*Oryx leucoryx*); 1 red monkey (*Cercopithecus ruber*); 1 green monkey (*Cercopithecus callitrichus*); 1 common skunk (*Mephitis mephitica*); 2 green lizards (*Anolis principalis*); 3 prairie wolves (*Canis latrans*); 1 red kangaroo (*Macropus rufus*) and 1 great kangaroo (*Macropus giganteus*), all born in the garden; 2 Pennant's parrakeets (*Platycercus pennantii*); 2 Rosehill parrakeets (*P. eximius*); 2 blood-rumped parrakeets (*P. hæmatonotus*); 4 yellow-collared parrakeets (*P. semitorquatus*); 4 chestnut-eared finches (*Amadina castanotis*); 2 spotted-sided finches (*A. lathami*); 2 chestnut-breasted finches (*Donacola castaneothorax*); 2 maja finches (*Munia maja*); 2 spotted munias (*M. undulatus*); 1 buffalo ♂ (*Bison americanus*), born in the garden; 1 loon (*Colymbus torquatus*); 2 European fallow deer (*Dama vulgaris*) ♂♀; 2 European badgers (*Meles taxus*) ♂♀; 1 gray ichneumon (*Herpestis griseus*); 3 anubis baboons (*Cynocephalus anubis*), 1 emu (*Dromæus novæ-hollandiæ*; 1 scarlet ibis (*Ibis rubra*); 3 bar-headed geese (*Anser indicus*), India; 1 secretary vulture (*Gypogeranus serpentarius*), S. Africa; 4 ring-necked pheasants (*Phasianus torquatus*); 1 darter, or water turkey (*Plotus anhinga*), Florida; 7 white-footed mice (*Hesperomys leucopus*), born in the garden; 1 star-nosed mole (*Condylura cristata*); 2 laughing king-fishers (*Dacelo gigantea*), Australia; 4 Swainson's lorikeets (*Trichoglossus novæ-hollandiæ*); 1 gray parrot (*Psittacus erythacus*); 2 Javan chevrotains (*Tragulus javanicus*) ♂♀, Java and Sumatra.

— We would call attention to Mr. W. N. Lockington's article "The Flounders of our Market" [San Francisco], (Scientific Press Supplement, San Francisco, Cal., Vol. 1, No. 3, April, 1879), as from its place of publication it is likely to escape the eyes of naturalists. There are notes on *Hippoglossoides melanostictus* (Girard sp.) Lockington, *Uropsetta californica* (Ayres sp.) Jordan, *Citharichthys sordidus* Gunther, *Hypsopsetta guttulata* (Girard sp.) Lockington (*Paropheys ayresii* Gunther), *Pleuronichtys cœnosus* Girard, *Parophrys vetula* Girard, *Lepidopsetta bilineata* (Ayres sp.) Jordan, *L. umbrosa* (Girard sp.) Lockington, and *Platichthys stellatus* Günther. Two new species, *Hippoglossoides jordani* and *Glyptocephalus pacificus*, are described.—*J. S. K.*

— An observation lately made by M. Collot, in Panama, lends support to the opinion that the phylloxera is an insect indigenous in North America, not introduced from Europe with cultivated vines. In the woods of Panama, so far from any center of cultivation of the vine, M. Collot noticed the phylloxera on a wild native vine, which clings to trees after the manner of tropical trullweed.

— The biennial oration in memory of John Hunter was delivered by Prof. Humphry, of Cambridge, F.R.S., in the lecture-room of the Royal College of Surgeons, February 14.

— The following from a recent number of the *Yuma Sentinel,* is not without interest:

"A herd of camels was driven here from Nevada nearly two years ago. Finding no profitable work for them their owners turned them loose along the Gila to the eastward of Yuma. There they have been living and breeding, looking fat and sleek all the time. For a while they were in danger of extermination. Whenever they put in an appearance along the wagon road they frightened mules and horses beyond the control of the drivers. They soon earned the everlasting hatred of teamsters, some of whom acquired a habit of shooting camels at sight. Since, however, the railroad has been delivering freight at Adonde, the road along the Gila, this side of that place, has been comparatively abandoned by teamsters, and the remaining camels have now a good chance to show what they can do in the way of propagation. The waterless desert of Sonora, south and south-east of Yuma, is known to possess immense deposits of salt, sulphur, borax and soda. Its mountains are also known to carry extensive deposits of metals. To these camels we look for eventually making these treasures accessible and available."—*R. E. C. S.*

— The doubt as to whether science or high rank should be represented in the presidency of the Zoölogical Society has been solved by the unanimous election of Mr. William Henry Flower, F.R.S., &c., conservator of the Museum and Hunterian Professor of Comparative Anatomy at the Royal College of Surgeons.

— The Permanent Exposition of Philadelphia, now occupying the main building of the Centennial, has adopted some changes in its organization which will give it a much more specially educational tone than heretofore. It has been divided into ten departments, over each of which a competent chief has been placed. Particular provision has been made for a great museum of the materials of the natural sciences, three of the departments together covering the subjects therein embraced; to these has been assigned a space of six acres within the building. The organization of the executive board is as follows: President, Edward Shippen; secretary and superintendent, W. T. Seal; vice-presidents, Ellis A. Apgar, Geo. F. Barker, Geo. Blight, John F. Hartranft, D. Newlin Fell; chief of the department of inorganic material, Persifor Frazer, Jr.; chief of the department of organic material, Edward D. Cope; chief of the department of archæology and ethnology, Edwin A. Barber; chief of the department of national architecture, furniture, costumes and traits, George W. Hewitt; chief of the department of model homes, William S. Schofield; chief of the department of agriculture, Willis P. Hazard; chief of the department of machinery, apparatus and manufactures, E. Gybbon Spilsbury; chief of the department of industrial training, Rudolphus Bingham; chief of the department of schools, school-systems and publications, Edward Shippen; chief of the department of fine arts, George W. Pettit.

The prospectus for 1879 contains a series of announcements from Dr. J. A. Paxson, the president, W. T. Seal, secretary, and from each of the chiefs of departments. Those of Profs. Frazer and Cope, and of Mr. Barber, present plans for the classification of their respective museums, which indicate a determination to do their respective charges ample justice. They commence under the favorable conditions of unusually fine collections already in hand, and it will only depend on the public spirited citizens of Philadelphia whether she has a museum appropriate to her population and importance or not. The advantage of having her museums under one roof is almost unique, and should recommend the new organization to immediate support.

— The district of Shantong, in China, contains diamond deposits of a certain importance, but the stones in which the diamonds are found are generally very small—rarely the size of a pea. The following singular artifice (we learn from *Annales Industrielles*) is resorted to by to the Chinese to obtain them. Men wearing large and thick boots made of straw walk in the sand of diamantiferous valleys and watercourses. The diamonds, generally rugose and angular in form, penetrate into the straw, and remain fixed there. Afterwards the boots are collected *en masse* and incinerated, and the precious stones are found among the ashes.—*English Mechanic.*

— We have received the announcement for 1879, of the Appalachian Mountain Club, containing the Constitution and By-laws, list of officers for 1879, and the list of members. The president for this year is Prof. W. H. Niles, of Cambridge, Mass.

— The report on the condition and progress of the Davenport Academy of Natural Sciences, shows that this society is one of the most active in the West, and that this is due largely to two or three individuals, sustained by an enlightened and progressive constituency.

— A number of the citizens of Atlanta have organized a Scientific Association, with the following list of officers, for the purpose of having lectures on scientific subjects delivered weekly free to the public, and to collect a library of scientific works, and to provide a museum of specimens of minerals, rocks, ores, woods, plants and animals, to be kept open to the public on fixed days, and to workers in science at all times. They have a commodious hall, furnished with shelves, and a janitor in charge of the same. It is near the centre of this growing city of 35,000 inhabitants. Officers, Geo. Little, president; Fred. Bell, vice-president; G. W. Kates, secretary; J. M. Ellis, treasurer; J. S. S. Bell, librarian (pro tem). They have already had about 40 lectures by professors in the State university, and other scientific gentlemen. They would be glad to receive publications as valuable additions to the library. Any contribution to the museum will also be gratefully received.

— The Transactions of the Kansas Academy of Science for 1877 and 1878, contains a number of short articles of much general interest. Prof. F. H. Snow contributed a number of lists of Colorado and Kansas insects. Prof. B. F. Mudge contributes an article entitled, The connection of the fossil forests of the Dakota Groups in Kansas with the fossil forests of Greenland; and S. W. Williston gives a brief popular resumé of existing knowledge of the Dinosauria.

— A number (issued March 4, 1879,) of Siebold and Kölliker's Zeitschrift gives the names of authors and a detailed index of all the articles which have appeared in volumes 16–30, and the supplementary volumes 25 and 30.

— In Ethopia there is found, in subterranean cavities (according to M. Villiers), a honey made without wax by an insect resembling a large mosquito. This honey is called *tazma*. The natives use it to cure throat disease. On analysis, M. Villiers finds it to contain 32 per cent. of mixed fermentable sugars and 28 per cent. of dextrine. The composition is like that of mannas of Sinai and Kurdistan, saccharine matter from the leaves of the lime-tree, and ordinary honey; but it differs from those substances in the absence of cane sugar.

— The results of the disastrous phenomenon of sudden freezing of rain in France, lately referred to, are now coming more freely to light. In a paper in *Revue des Deux Mondes* on the subject, by M. Lamin, it is stated that the forests affected in the Department of Seine-et-Marne have an extent of some 21,000 hectares. The volume of wood broken is estimated at 200,000 steres, the Forest of Fontainebleau alone counting for 150,000 steres. For about fifty years past the Service des Forêts has been seeking to restore the ruined cantons by plantation of Scotch firs. It had thus covered 4000 to 5000 hectares, and every year the woods were carefully thinned for better development. It is now found that these woods of fir have been destroyed in the proportion of sixty to seventy per cent. Some parts, indeed, have been ruined completely. It will be necessary to raze immense portions and commence anew. The work of restoration of the Forest of Fontainebleau has been thrown back thirty years.